
HMX Pro Immunology - Vaccines and Viral Immunology

Viral infections are responsible for many human diseases, from common diseases like the flu to emerging infections such as Zika virus and SARS-CoV-2. Understanding how the immune system works to prevent and remove viral infections is essential for anyone working to develop or distribute vaccines that can protect against these diseases.

HMX Pro Immunology - Vaccines and Viral Immunology offers a unique way for professionals to learn from leading Harvard Medical School faculty about cutting-edge developments in the creation of vaccines to protect against viral infections.

Participants will:

- Learn the basics of how viruses can infect cells and cause disease
- Gain an understanding of the ways that the human immune system fights off viral infections, and the methods that viruses use to evade the immune response
- See examples of how knowledge of the immune response to viruses can inform vaccine development

Topics Covered

Overview of the Immune Response to Viral Infections

- The Immune Response to Viral Infections
- The Potential for Preventing Viral Diseases

Principles of Viral Immunology

- Introduction to Viruses
- Viral Pathogenesis
- Methods of Immune Evasion
- T Cell Exhaustion
- Passive Immunotherapy
- Adjuvants and Immune Activation
- Viral Invasion
- Viral Replication
- Immune Responses to Viruses

Pathogenesis and Evasion Mechanisms of Specific Viruses

- Flu and Flu Pandemics
- HIV
- Zika and Dengue
- Ebola and Marburg
- Hepatitis Viruses
- COVID-19 and Coronaviruses
- Clinical Linkage: Hepatitis C Virus

Vaccination

- Types of Vaccines
- RNA Vaccines
- Hybrid Vaccines
- Durability of Immune Responses
- Vaccine Safety
- Vaccine Hesitancy
- The Creation of Vaccines

Wrap-up

- The Future of Treating and Preventing Viral Diseases

The HMX Pro Series offers a new online learning experience designed to get busy professionals up to speed on the latest advances in medicine. Concepts are taught using whiteboard-style videos and animations and reinforced by interactive elements, true-to-life scenarios, and real patient cases to enhance learning.